

PLATE II.

- Fig. 1. *Tibicen transversa* (Walker).
Fig. 2. *Okanagana nigriviridis* Davis. Type.
Fig. 3. *Okanagana vanduzeei* Distant.
Fig. 4. *Okanagana simulata* Davis. Type.
Fig. 5. *Platypedia laticapitata* Davis. Type.
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NOTES ON INDIANA HALTICINI WITH CHARACTERIZATION OF A NEW GENUS AND DESCRIPTIONS OF NEW SPECIES.

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During the ten years that have intervened since my "Coleoptera of Indiana" was issued, a number of interesting Halticini have been added to the known fauna of the State. Some of these are evidently new to science and one of them belongs to none of the genera included by Dr. Horn in his "Synopsis of the Halticini of Boreal America."¹ I have therefore, in this paper, founded for it a new genus, have described eight species and named one variety believed to be new, and have added notes on a number of others. The order followed is that of the genera and species of the Tribe in the Coleoptera of Indiana. My thanks are due to H. C. Fall, of Tyngsboro, Mass., for comparisons made and suggestions given, examples of all the supposedly new species having been submitted to him.

***Disonycha pennsylvanica parva* new variety.**

This is the small form occurring about a cypress swamp in Knox County, and characterized but not named by me on page 1188 of the "Coleoptera." Since it differs from *pennsylvanica* in having the elytra non-alutaceous, almost wholly without punctures and always with a double fold or sulcus along the median black stripe, it may in time be recognized as a valid species, since no intermediate forms have been seen. I found it in numbers about a similar swamp at Sanford, Fla., in April, 1913, and it is probably the form mentioned

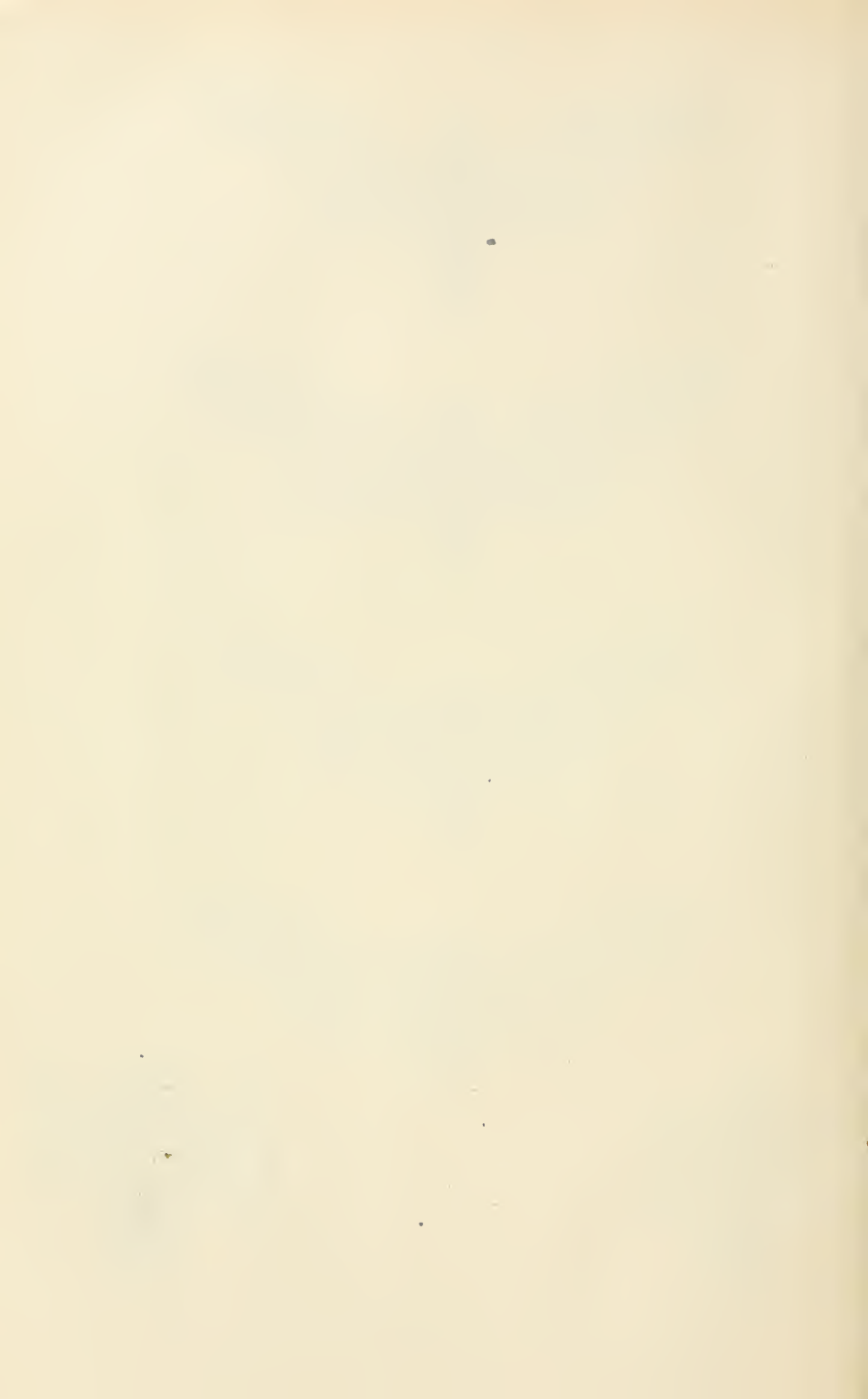
¹ Trans. Amer. Ent. Soc., XVI, 1889, pp. 163-320.



(CICADIDAE.)



[CICADIDAE.]



without name by Horn, loc. cit., p. 203, as occurring in Florida and Louisiana, though he does not refer to the most salient differences between it and *pennsylvanica*.

The small Halticids belonging to the genus *Longitarsus* are much more numerous in this country than is generally supposed. I have elsewhere described three very distinct forms from Florida which were not included in Horn's paper, and have at hand four others which have been heretofore unknown. They frequent, for the most part, the dense subaquatic vegetation along the borders of marshes and ponds, where their small size precludes their being easily seen. They are best taken by sweeping, but this method of capture usually prevents their food plant being definitely known unless, as is seldom the case, the vegetation is of a single species.

The study of this genus, while a most interesting pastime, is beset with many difficulties. Crotch passed it up with the statement² that: "The species are beyond my skill to unravel from the incomplete material before me." Horn, loc. cit., p. 276, stated that: "The genus is an extremely difficult one to deal with, certainly more so than any other Halticini of our fauna," yet he made a very satisfactory key to 23 species from all parts of the country, 15 of which he described as new.

Our eastern species of *Longitarsus* group themselves naturally into two divisions, one having the wings present, the elytra wider at base than thorax and with umbones and humeri distinct; the other apterous, the elytra not wider at base than thorax, the humeri, at the most, broadly rounded and the umbones absent or very faint. These groups should at least bear subgeneric rank. In order that our eastern species may be the more readily determined I have prepared the accompanying key to the 19 now known from east of the Mississippi River. In my study of both these and other small Coleoptera I have found that the presence or absence of an alutaceous surface is one of the most stable characters to be used in separating closely related species. This and the color, which varies but little in mature specimens of *Longitarsus*, and the length, which can also be depended upon within the limits given, are the principal secondary characters I have used in the key.

² Proc. Acad. Nat. Sci. Phil., 1873, 65.

KEY TO EASTERN SPECIES OF LONGITARSUS.

- a.* Elytra at base distinctly wider than thorax; humeri and umbones more or less evident; body winged. (Subgenus *Longitarsus*.)
- b.* Color either testaceous or reddish-brown.
- c.* Larger species, length more than 2.2 mm.
- d.* Rufo-testaceous, upper surface not alutaceous; length 3 mm.
subrufus Lec.
- dd.* Rufo-castaneous; length not more than 2.5 mm.
- e.* Joints 2, 3 and 4 of antennæ subequal in length or joint four but slightly longer than two; surface not alutaceous.
alternatus Ziegl.
- ee.* Joints 2, 3 and 4 of antennæ gradually longer, four being double the length of two; surface minutely alutaceous.
arenaceus new species.
- cc.* Smaller species, length not over 2 mm.
- f.* Upper surface nowhere alutaceous.
- g.* Antennæ with four basal and three apical joints reddish-yellow, the intermediate joints fuscous; elytra rufo-testaceous, each with a fuscous cloud at middle; length 2 mm.
heliophyti Horn.
- gg.* Antennæ fusco-piceous, the three or four basal joints alone pale; elytra dull testaceous without fuscous median spots but with a vague common w-shaped scutellar blotch; length 1.3-1.5 mm.....**fuscicornis** Blatch.
- ff.* Upper surface, at least of elytra, distinctly alutaceous.
- h.* Joints 2, 3 and 4 of antennæ subequal in length; elytra not shining but with a distinct greasy aspect.
- i.* Elytra nearly three times as long as thorax, coarsely alutaceous; form more robust, convex; punctures of thorax very evident; length 2 mm.....**testaceus** Melsh.
- ii.* Elytra only twice as long as thorax, minutely alutaceous; form more slender, subdepressed; punctures of thorax almost invisible; length 1.6-1.8 mm.....**cotulus**³ Blatch.
- hh.* Joints 2, 3 and 4 of antennæ unequal, gradually longer; elytra alutaceous but shining and without a greasy aspect, the punctures distinctly coarser than in either *testaceus* or *cotulus*; length 1.8-2 mm.....**suspectus** new species.
- bb.* Color either piceous or dark brown.
- j.* Larger species, length 3-3.5 mm.....**traductus** Horn.
- jj.* Smaller, not over 2.5 mm.
- k.* Upper surface strongly shining, not at all alutaceous.

³ In lifting up an elytron of the type the wing must have adhered to the under surface and was not discovered, as I described it erroneously as apterous, whereas the wings are as fully developed as in any other species of this group.

- l.* Joints 2, 3 and 4 of antennæ unequal, successively longer; color dark brown with a faint bronze luster; length 2.3-2.5 mm. *turbatus* Horn.
- ll.* Joints 2, 3 and 4 of antennæ subequal in length; color piceous; length less than 2 mm.
- m.* Punctures of thorax very fine, almost invisible; legs piceous; length 1.8 mm. *serro* Horn.
- mm.* Punctures of thorax moderately coarse, very distinct; legs dull yellow; length 1.5 mm. *pygmæus* Horn.
- kk.* Upper surface distinctly alutaceous, moderately shining; color brownish-piceous; elytral punctures coarse; length 2-2.2 mm. *melanurus* Mats.
- aa.* Elytra at base not wider than thorax; humeri and umbones absent or very feeble; body apterous. (Subgenus *Apterius*.)
- n.* Color either testaceous or reddish-brown.
- o.* Abdomen coarsely punctate; length 2-2.2 mm. *insolens* Horn.
- oo.* Abdomen smooth or very indistinctly punctate; length not over 1.8 mm.
- p.* Thorax with distinct coarse, deep scattered punctures; pygidium wholly concealed; elytra with coarse, deep punctures; length 1.3 mm. *perforatus* Horn.
- pp.* Thorax with fine, shallow, almost invisible punctures; pygidium plainly visible; elytra with much finer, more shallow punctures.
- q.* Pale reddish-brown, feebly shining; form elongate, subcylindrical; length 1.8 mm. *subcylindricus* Blatch.
- qq.* Dark reddish-brown, strongly shining; form short, oval; length 1-1.2 mm. *misellus* new species.
- nn.* Color either black or very dark chocolate-brown.
- r.* Color black; punctures of elytra coarse, dense; length 1-1.2 mm. *solidaginis* Horn.
- rr.* Color dark chocolate-brown; punctures of elytra fine and sparse; length 1.5 mm. *saltatus* new species.

***Longitarsus arenaceus* new species**

Broadly oval, convex, robust for the genus, winged. Reddish-castaneous or brick-red, shining; apical half of antennæ and hind femora and sutural line of elytra slightly darker. Head with frontal carina scarcely evident; postocular tubercles prominent. Antennæ stout, joints 2, 3 and 4 distinctly increasing in length, the fourth double the length of the second. Thorax subquadrate one-fourth wider than long, sides feebly rounded, front angles with a prominent obliquely truncated oval nodule, hind ones rounded into base; disk minutely alutaceous, very sparsely and finely but distinctly punctate. Elytra oval, one-third wider at base than thorax; humeri rounded, umbones feebly but evident; disk minutely alutaceous, very finely, evenly and rather densely punctate. Abdominal segments 1-4 gradually diminishing in length, all distinctly punctate. Length, 2.2-2.5 mm.

Pine, Lake Co., Ind., May 15-20; Mineral Springs, Porter Co., Sept. 10. Taken by A. B. Wolcott in the sand covered district along Lake Michigan where it occurs mainly beneath the prickly pear cactus *Opuntia humifusa* Raf. This species was erroneously included in the Coleoptera of Indiana, p. 1192, as *L. alternatus* Ziegl., but that species is non-alutaceous and has the antennal joints, 2, 3 and 4 subequal. Mr. Fall has compared for me the type of *arenaceus* with that of Ziegler's species and pronounces the two very distinct.

Longitarsus suspectus new species.

Rather broadly oval, convex; winged. Pale reddish-yellow throughout, strongly shining; apical third of antennæ often dusky. Head alutaceous, impunctate, the frontal carina prominent. Antennal joints 2, 3, 4 gradually slightly longer, the fourth one-half longer than second, but slightly if any shorter than those which follow, which are subequal. Thorax sub-elliptical, one-third wider than long, sides strongly declivent; front angles with a small obliquely truncated nodule, hind ones rounded into base; disk minutely alutaceous, very finely and remotely punctate. Elytra wholly covering the pygidium, one-third wider at base than thorax, humeri rounded, umbone evident but feeble; sides very broadly curved, sutural angle obtuse; disk finely but distinctly alutaceous, finely, evenly and very shallowly punctate, the punctures separated by nearly twice their own diameters and subseriate in arrangement. Abdomen finely and sparsely punctate, each puncture bearing a minute inclined yellowish hair. Length, 1.8-2 mm.

Pulaski, Putnam, Marion, Knox and Dubois counties, Ind., May 6-November 28. Taken by sweeping herbage about the margins of woodland ponds. Heretofore confused in my collection and probably in many others with *L. testaceus* Melsh., but smaller, comparatively broader with the upper surface much less alutaceous and therefore without the strong greasy aspect of *testaceus*. The punctures of the thorax are almost invisible, while those of the elytra are distinctly coarser than in *testaceus*. No abdominal sexual differences are visible in the series of 27 specimens at hand, though what I take to be the males are more narrow bodied, still less alutaceous and with the disparity between joints 2-3-4 of antennæ slightly greater than in the female type. From *arenaceus*, described above, this species differs in its paler color, much less robust form, in joints 2, 3 and 4 of antennæ being less unequal and in the coarser, sparser and much more shallow punctures of elytra.

Longitarsus misellus new species.

Narrowly oval, strongly convex; apterous. Dark reddish-brown; antennæ and legs reddish-yellow, the former dusky toward tips. Head minutely alutaceous, impunctate. Antennæ with joints 2, 3 and 4 subequal in length, each one-third shorter than Nos. 6-8, which are also subequal. Thorax one-half wider than long, its sides strongly declivent, their margins rounded into base; disk minutely and very sparsely punctate, the punctures just visible under the highest magnification. Elytra at base not wider than thorax, their sides very broadly and evenly curved to apex, beneath which the pygidium is plainly visible; umbones and humeri wanting; disk with punctures everywhere confused, round, shallow, separated by twice their own diameters. Abdomen very finely and distantly punctate. Length, 1-1.2 mm.

Parke Co., Ind., May 13; Marion Co., Sept. 2. Swept from herbage in low moist places. Allied to *L. insolens* Horn, but much smaller, with the punctures of thorax all but invisible and abdomen almost smooth.

Longitarsus saltatus new species.

Elongate-oval, strongly convex; apterous. Piceous or dark chocolate-brown; antennæ and legs dull reddish-yellow, the hind femora reddish-brown. Head finely alutaceous, impunctate. Eyes small, prominent, very coarsely faceted. Antennæ with joints 2, 3 and 4 subequal. Thorax one-half wider than long, sides broadly rounded; front angles with a thickened obliquely truncate nodule, side margins with a smaller spicule at apical third and another near hind angles, which are rounded into the base; disk distinctly alutaceous, finely, very sparsely and shallowly punctate. Elytra oval, widest at middle, not wider at base than thorax, sides broadly curved from base to the separately rounded apices, which leave the pygidium almost wholly exposed; umbones and humeri absent; disk minutely alutaceous, sparsely finely and somewhat aciculate punctate, the punctures near the suture serrate. Abdomen finely and sparsely punctate, the last ventral with a distinct but almost lengthwise median carina. Length, 1.5 mm.

Posey Co., Ind., Sept. 21. Taken by sweeping roadside herbage. Allied to *solidaginis* Horn, but larger, less attenuate behind and with punctures of elytra much finer and more shallow.

Longitarsus turbatus Horn.

This has proven to be almost as common in Indiana as *L. melanurus* with which it is usually confused. Numbers were taken in Marion County during the past summer by sweeping about a "wet weather" woodland pond.

Glyptina brunnea Horn.

A single specimen was taken July 20 in Marion County, while sweeping in dense upland woods. This is the first Indiana record. Horn states that it is known from Georgia, Louisiana, Texas and Wisconsin.

The species of the genus *Haltica* are also much more numerous in this country than was supposed by Horn. Since his synopsis appeared, a number of species have been described as new by Fall, Schaeffer, Woods and myself, and two others which are apparently different from any known are herewith added to the list. One of them, as well as several of the others recently described, was masquerading under the name *H. ignita* Illig. which name was for years a general dumping ground for species similar in size and general facies which could not be readily determined. Just what Illiger's species was or is no one in this country apparently really knows. By Melsheimer, Leconte, Horn and others the name *ignita* was assigned to a group of species of subdepressed, oblong form, 3-4 mm. in length, blue, greenish or coppery-golden in color, having joints 2, 3 and 4 of antennæ usually gradually longer; thorax one-half wider than long, finely and sparsely punctured, the sub-basal transverse impression loosely defined but wide and entire and consisting of a narrow, deep median line from which the front of the impression rises abruptly, the hind portion being flattened, and gradually sloping upward. Males with last ventral segment sinuate each side, forming a short median semicircular lobe which is flattened but *not* emarginate, impressed or excised, the hind edge usually slightly reflexed.

Fall first recognized⁴ that a number of species were included by these older writers under the name *ignita* and described three of them, *probata* and *suspecta* from California and *litigata* from Florida, as new, limiting the name *ignita* to a "brilliant coppery-golden form of the Middle Atlantic states." My *Haltica schwarzi*⁵ and *H. vaccinia*,⁵ described from Florida, were next taken from the *ignita* complex of Horn. Woods⁶ has since separated and described three additional

⁴ Trans. Amer. Ent. Soc., XXXVI, 1910, 153.

⁵ Can. Ent., XLVI, 1914, 141; XLVIII, 1916, 95.

⁶ Bull. 273, Maine Agr. Exp. Stat., 1918, 154.

species, *corni*, *rosa* and *ulmi*, from Maine.^{6a} Since Illiger's original description of *ignita* calls for a species having the elytra "*plica submarginali*," a character that no known American species, except *bimarginata* Say, possesses, and since none of our entomologists have seen his type and have heretofore "guessed" at what species he had in hand, it would be better, in my opinion, to either drop his name from our lists or to carry it, as Woods has done, as an unknown American species possessing an elytral submarginal fold.

From the coppery-golden form assumed to be *ignita* by Fall, and from all the species recently described from the composite *ignita* Illig. of Horn, the first of the following two species differs in the characters given sufficiently to justify its description as new.

***Haltica gloriosa* new species.**

Oval, rather strongly convex. Color a uniform brilliant reddish purple; antennæ, tarsi and tibiæ blackish-bronzed, pubescent. Fourth joint of antennæ one-fifth longer than third, twice the length of second. Head with frontal carina distinct, sharp; eyes large but only moderately prominent; vertex impunctate. Thorax subquadrate, one-fourth wider than long, base and apex subequal in width; front angles nodulate, hind ones obtuse, sides almost parallel, feebly undulate; disk minutely alutaceous, very finely and sparsely punctate, the transverse basal impression entire, its front portion less elevated and abrupt, and hind one less sloping and more depressed than in the *ignita* Illig. of Fall. Elytra oval, convex, one-third wider at base than thorax, sides broadly curved, umbones evident but feeble, disk rather closely and relatively coarsely punctate, the punctures behind the umbones plainly seriate in arrangement. Abdomen finely and sparsely punctate, more closely and rugosely in female, the hind margin of each segment fimbriate with fine grayish hairs; hind femora finely pubescent. Last ventral of male with a distinct but small U-shaped emargination at tip which, when held in certain positions, has the appearance of a small rounded fovea. Length, 3-3.3 mm.

Marion Co., Ind., August 3, September 6, three specimens; Lawrence Co., May 11. The ones from Marion Co. were taken by sweep-

^{6a} Since this paper went to press there has appeared in *Psyché* XXVII 1920, pp. 101-111, one by Mr. Fall entitled: "On Certain Species of *Haltica*, Old and New." In this he states that the *H. ulmi* of Woods is a synonym of *H. carinata* Germ., and that the *rosa* of Woods is "exceeding close, if actually distinct" to what he (Fall) recognizes as the typical *ignita* Illig. This latter form, he says, occurs in the Eastern States on laurel and was described as *H. kalmia* by Melsheimer. Fall describes four new species in the paper cited, two, *purpurea* and *blanchardi*, from Massachusetts, *henrici* from Manitoba and *vialis* from New Mexico and Arizona.